concern to that described above may occur. Namely, without further processing, a linear amplifying circuit may need to amplify a signal exhibiting an undesirably high peak-to-average power ratio characteristic. High peak-to-average power ratios are particularly likely to be experienced at the types of hubs or base stations where many code-channels are combined together for amplification in a single amplifying circuit.

Amendments to the Claims:

Please amend the claims as set forth below:

1. (currently amended) A constrained-envelope digital communications transmitter circuit comprising:

a modulated-signal generator for generating a first modulated signal conveying to-be-communicated data, having a first bandwidth and having a first peak-to-average amplitude ratio;

a constrained-envelope generator for generating a constrained bandwidth error signal in response to said first modulated signal;

a combining circuit for combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to-average amplitude ratio; ~~and~~

~~a substantially linear amplifier configured to amplify said second modulated signal~~

a linearizer configured to pre-distort said second modulated signal into a pre-distorted signal; and

a radio-frequency amplifying circuit configured to generate a radio-frequency broadcast signal from said pre-distorted signal.

2. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 1 additionally comprising a delay element coupled between said modulated-signal generator and said combining circuit to delay said first modulated signal into synchronism with said constrained bandwidth error signal.

3. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 2, wherein said constrained-envelope generator is configured so that said constrained bandwidth error signal exhibits a bandwidth substantially equal to or less than said first bandwidth.

4. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 2 wherein:

peaking unit intervals occur when said first modulated signal exhibits magnitudes greater than a threshold;

said constrained bandwidth error signal includes error bursts for said peaking unit intervals, wherein each error burst spreads energy over a plurality of unit intervals and exhibits a peak in one unit interval; and

said delay element delays said first modulated signal so that error burst peaks substantially temporally coincide with said peaking unit intervals.

5. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 4 wherein said error burst peaks exhibit amplitudes which are responsive to amounts by which magnitudes of said first modulated signal exceed said threshold.

6. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 1 wherein said modulated-signal generator is a code division multiple access (CDMA) modulator and said first modulated signal conveys a plurality of code-channels of said to-be-communicated data.

7. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 6 wherein said CDMA modulator includes a Nyquist-type pulse spreading filter which provides said first modulated signal.

8. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 1 wherein said constrained-envelope generator comprises:

a pulse generator responsive to said first modulated signal; and

a filter having an input coupled to said pulse generator and being configured to generate said constrained bandwidth error signal.

9. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 8 wherein said pulse generator is configured to generate a pulse when said

first modulated signal exhibits a magnitude greater than a threshold.

10. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 9 wherein said pulse generator is further configured so that said pulse exhibits an amplitude which is responsive to a value by which said first modulated signal exhibits said magnitude greater than said threshold.

11. (currently amended) A constrained-envelope digital communications transmitter circuit as claimed in claim 1 wherein said linearizer is a digital linearizer, and said transmitter circuit additionally comprises a digital-to-analog converter coupled between said digital linearizer and said radio-frequency amplifying circuit

~~substantially linear amplifier comprises:~~

~~a linearizer configured to pre-distort said second modulated signal into a pre-distorted signal; and~~

~~a radio-frequency amplifying circuit configured to generate a radio-frequency broadcast signal from said pre-distorted signal~~.

12. (currently amended) In a digital communications system, a method for transmitting a constrained-envelope communications signal comprising:

generating a first modulated signal conveying to-be-communicated data and having a first bandwidth and a first peak-to-average amplitude ratio;

generating a constrained bandwidth error signal in response to said first modulated signal;

combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to-average amplitude ratio; ~~and~~

~~linearly amplifying said second modulated signal~~

linearizing said second modulated signal to produce a pre-distorted signal;

amplifying said pre-distorted signal to generate a communications signal exhibiting a constrained envelope; and

transmitting said communications signal.

13. (original) A method as claimed in claim 12 wherein said constrained bandwidth error signal exhibits a bandwidth substantially equal to or less than said first bandwidth.

14. (original) A method as claimed in claim 13 additionally comprising delaying said first modulated signal into synchronism with said constrained bandwidth error signal.

15. (original) A method as claimed in claim 14 wherein:

peaking unit intervals occur when said first modulated signal exhibits magnitudes greater than a threshold;

said constrained bandwidth error signal includes error bursts for said peaking unit intervals, wherein each error burst spreads energy over a plurality of unit intervals and exhibits a peak in one unit interval; and

said first modulated signal is delayed so that error burst peaks substantially temporally coincide with said peaking unit intervals.

16. (original) A method as claimed in claim 15 additionally comprising forming said constrained bandwidth error signal so that said error burst peaks exhibit amplitudes which are responsive to amounts by which magnitudes of said first modulated signal exceed said threshold.

17. (original) A method as claimed in claim 12 wherein said first-modulated-signal-generating activity configures said first modulated signal as a code division multiple access (CDMA) signal conveying a plurality of code-channels of said to-be-communicated data.

18. (currently amended) A constrained-envelope digital communications transmitter circuit comprising:

a modulated-signal generator for generating a first modulated signal conveying to-be-communicated data, having a first bandwidth and having a first peak-to-average amplitude ratio;

a constrained-envelope generator for generating a constrained bandwidth error signal in response to said first modulated signal, said constrained bandwidth error signal exhibiting a bandwidth substantially equal to or less than said first bandwidth, and said constrained bandwidth error signal exhibiting peak amplitudes which are responsive to amounts by which magnitudes of said first modulated signal exceed a threshold;

a delay element for delaying said first modulated signal into synchronism with said constrained bandwidth error signal;

a combining circuit for combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to-average amplitude ratio; ~~and~~

~~a substantially linear amplifier configured to amplify said second modulated signal~~

a linearizer configured to pre-distort said second modulated signal into a pre-distorted signal; and

a radio-frequency amplifying circuit configured to generate a radio-frequency broadcast signal from said pre-distorted signal.

19. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 18 wherein said modulated-signal generator is a code division multiple access (CDMA) modulator and said first modulated signal conveys a plurality of code-channels of said to-be-communicated data.

20. (original) A constrained-envelope digital communications transmitter circuit as claimed in claim 18 wherein:

peaking unit intervals occur when said first modulated signal exhibits magnitudes greater than said threshold;

said constrained bandwidth error signal includes error bursts for said peaking unit intervals, wherein each error burst spreads energy over a plurality of unit intervals and exhibits a peak in one unit interval; and

said delay element delays said first modulated signal so that error burst peaks substantially temporally coincide with said peaking unit intervals.